

REMARKS

The Office Action states at page 2: "The following IDS items were not considered because the hard copies are not supplied: B1-B6, C1-C90 and C96." The Applicants on December 13, 2002, filed an Information Disclosure Statement, relying on 37 C.F.R. § 1.98(d). In response to the statement in the Office Action, however, and for the convenience of the Examiner, the Applicants submit copies of references A1-A48, B1-B6, C1-C83, C85-C90, C96 and C101 with this paper (the list does not include reference C84, the present application).

The Office Action rejected claims 1 and 3-39. More specifically, the Office Action rejected claims 1, and 3-39 as indefinite under 35 U.S.C. § 112, second paragraph. Furthermore, the Office Action rejected claims 1 and 10-16 as anticipated by U.S. Patent No. 6,424,223 to Wang et al. and U.S. Patent No. 6,495,912 to Huang et al. under 35 U.S.C. § 102(e). The Applicants respectfully disagree with the rejections in the Office Action and reserve the right to pursue the rejected claims, other claims, or both, in subsequent applications. Furthermore, the Applicants hereby clarify that they do not cancel or amend any claims in response to the rejections based on Wang and Huang.

The Office Action states at page 5: "Claims 22-38 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action." The Applicants in this paper cancel claims 1 and 3-21 without prejudice, and amend claims 22-33 and 37-39 to more particularly point out and distinctly claim the subject matter that they regard as their invention. Original claims 34-36 remain in the application.

More particularly, the Applicants amend claims 22-33 and 37-39 to change "inductance circuit" to "inductor." The Office Action states at page 3: "Regarding claim 22, the recitation 'so that an interfering magnetic signal induces a *common-mode signal in the parallel combination* of the first and second inductance circuits' is indefinite because it is not clear what the '*a common-mode signal in the parallel combination*' is meant by. Figure 14 of the present application shows that two inductors are connected together on one boding pad and there is no *common mode signal* involved."

In response, the Applicants point out that one properly makes an indefiniteness determination under 35 U.S.C. § 112, second paragraph, from the point of view of a person of ordinary skill in the art in light of the specification. The Applicants respectfully submit that the claimed language “the first and second inductors are formed within the semiconductor package so that an interfering magnetic signal induces a common-mode signal in the parallel combination of the first and second inductors” is not indefinite to a person of ordinary skill in the art who has the benefit of the teachings of the specification of the present application.

More specifically, at page 46, line 14 to page 48, line 6, the specification teaches (emphasis added):

RF circuitry such as frequency synthesizers often operate in electromagnetically and electrically noisy environments, for example, in the vicinity of digital switching noise and currents. *By using parallel wire bond inductors instead of a single wire bond inductor, one may reduce the effects of the noise and interference.*

FIG. 14 shows the parallel coupling of two wire bond inductors, each of which includes two wire bond inductor segments coupled in series via a bonding pad. . . .

. . . .

Suppose that an interfering source (say, from digital switching currents in proximity to the inductance structure of FIG. 14) produces a magnetic field with increasing intensity that enters the page in a perpendicular fashion. *The interfering magnetic field induces a current flowing in the counter-clockwise direction in the series combination of inductor segments 5020A and 5020B. Likewise, the magnetic field induces a current, also flowing in the counter-clockwise direction, in the series combination of inductor segments 5025A and 5025B.* In other words, the induced currents flow in inductor segments 5020A-5020B and 5025A-5025B in such a direction as to oppose the interfering source.

The particular manner of coupling in parallel the inductor segments that make up inductances L_1 and L_2 (i.e., the geometric symmetry in the structure of the inductor segments in FIG. 14) and the coupling of pad 5015A to pad 5015D and pad 5015B to pad 5015C *causes the voltage at pads 5015A and 5015D to rise by an amount substantially the same as the voltage rise at pads 5015B and 5015C.*

In other words, *the interfering magnetic field causes the generation of a common-mode voltage* at pads 5015A-5015D.

A person of ordinary skill in the art who reads the specification and, more particularly, the above passages, would understand how an interfering signal induces a common-mode signal in the parallel combination of the first and second inductors in Figure 14. Figure 14 shows two inductors coupled in parallel. The interfering signal causes the voltage at one terminal (coupled nodes 5015A and 5015D) of the parallel-coupled inductors to rise. The interfering signal also causes the voltage at another terminal (coupled nodes 5015B and 5015C) of the parallel-coupled inductors to rise by a substantially equal amount. The substantially equal induced voltages constitute a common-mode voltage in the parallel combination of the first and second inductors, as the claims recite. Accordingly, the Applicants respectfully submit that pending claims 22-39 are not indefinite under 35 U.S.C. § 112, second paragraph.

The Office Action at page 2 objects to certain drawings in light of claims 15-18 and 20. The Applicants respectfully submit that the cancellation of claims 15-18 and 20 renders that objection moot.

CONCLUSION

The Applicants respectfully submit that pending claims 22-39 are in allowable condition. Favorable reconsideration and prompt issuance of a Notice of Allowance is respectfully requested.

No fee is believed to be due, however, should any fees under 37 CFR 1.16-1.21 be required for any reason relating to the enclosed materials, the Commissioner is authorized to deduct such fees from Deposit Account No. 10-1205/SILA:106.

The examiner is invited to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious and compact prosecution of the application.

Respectfully submitted,



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